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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,814

04/05/2004

Pei-Yuan Huang

HUAN3256/EM

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BACON & THOMAS, PLLC

625 SLATERS LANE

FOURTH FLOOR

ALEXANDRIA, VA 22314-1176

EXAMINER

SERGEANT, RABON A

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/816,814	Applicant(s) HUANG ET AL.	
	Examiner Rabon Sergent	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20,22-25 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20,22-25 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Claims 20, 22-25, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, given that two steps of adding solvent are specified, it is unclear which of these solvents is being referred to by the language of the last four lines of claim 20.

Secondly, with respect to claim 22, it is unclear to which reaction of claim 20 the claimed temperature refers, as there are three distinct reactions referenced within claim 20.

Lastly, with respect to claim 29, despite applicants' response, it remains unclear what constitutes a semi-continuous polymerization reaction. It is unclear how a semi-continuous system differs from either a batch system or a continuous system. The examiner has reviewed the argued patents; however, it remains unclear exactly what constitutes a semi-continuous reaction or how the semi-continuous system of the argued references relates to the instant invention.

2. Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants have failed to define what constitutes a semi-continuous polymerization reaction, as it relates to the instant invention. The cancellation of the claim that contained the rejected language in no way addresses the use of the same language within the new claim.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 20, 22-25, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartelink et al. ('228).

Patentees disclose the treatment of textiles for oil and/or water repellency with a blocked perfluoro-polyurethane, wherein the polyurethane is produced by reacting a polyisocyanate, that corresponds to that instantly claimed, with a polyol, that meets applicants' claimed crosslinking agent, and an isocyanate reactive perfluoro group-containing compound, that corresponds to that instantly claimed, and a blocking agent, that corresponds to that instantly claimed. Furthermore, patentees disclose that the polyurethane is used in the form a solution, wherein suitable solvents correspond to those instantly claimed. Furthermore, patentees disclose a sequence of reaction and reaction temperature conditions that that meets that claimed. See abstract; column 1, lines 51+; column 2, lines 1-47; column 3, lines 25+; column 4, lines 1-33; column 5, lines 15+; column 6, lines 1-61; column 8, lines 5+; and column 9, line 1.

5. However, patentees fail to specifically disclose applicants' claimed stoichiometric ratios, the use of a solvent as specifically claimed, and the claimed processing times set forth within claims 23-25. Still, the position is taken that each of these claimed limitations would have been obvious to one of ordinary skill in the art at the time of invention in view of the state of the art and the teachings within the reference. Though the prior art does not specifically recite the molar ratios set forth for steps (b) and (d), the prior art is clear that the ratios are controlled such that there is a sufficient quantity of perfluoro groups to obtain the desired goal of promoting water and/or oil repellency and there is substantially no free isocyanate or isocyanate reactive groups. Accordingly, since the fundamental steps and goals of the process are set forth, it would have been obvious to one of ordinary skill in the art to arrive at the claimed stoichiometric ratios through routine experimentation. With respect to the claimed use of solvent, given the disclosed use of solvents at column 8, line 64 through column 9, line 1 and the extremely well-known purpose and function of solvents within polymerization systems as a means of controlling viscosity and processing conditions, the position is taken that it would have been obvious to incorporate them at any point in the process in amounts necessary to achieve the aforementioned goals, including prior to the blocking reaction and subsequent to it. It has been held that it is *prima facie* obvious to utilize a known component for its known function. *In re Linder*, 173 USPQ 356. *In re Dial et al.*, 140 USPQ 244. Furthermore, it has been held that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results (*In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)), and it has been held that the selection of any order of mixing ingredients is *prima facie* obvious (*In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930)). Finally, with respect to the time periods set forth

within claims 23-25, the position is taken that the selection of such times amounts to little more than the control and optimization of common chemical engineering processing parameters.

6. Applicants' response has been carefully considered; however, it is insufficient to overcome the prior art rejection. Applicants have argued that the claimed steps of adding solvent distinguish the claims from the prior art, because the prior art discloses that the reaction process is solvent free and, further, there is no suggestion to add solvent prior to the blocking reaction.

In response, though the reference discloses that the process is solvent free, the reference does not mandate that solvents cannot be used in view of the fact that the reference specifically discloses that the polyurethane can be applied using solvent at column 8, lines 64+. Such a disclosure clearly suggests to one of ordinary skill that the polyurethane is mixed with the solvent.

Therefore, given the nearly universal understanding within the art of the function or purpose of a solvent within polymeric systems during and after synthesis, the position is taken that it would have been obvious to utilize a solvent as needed. Given the extremely well known function of solvents, applicants have failed to establish that their process yields an unexpected result over the process of the prior art. Furthermore, applicants' arguments with respect to the claimed reactant ratios are not well taken. The prior art provides clear teaching with respect to how to control the relative amounts of reactants in a stoichiometric sense such that a viable product results from the reaction of the disclosed components, and the position is maintained in view of these teachings that the skilled artisan would have found it obvious to tailor the reaction using component ratios that correspond to those claimed. Applicants have provided no arguments establishing that the specifically claimed ratios yield an unexpected result. In summation, despite applicants'

arguments, the position is taken that the evidence of obviousness outweighs the evidence of non-obviousness.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

R. Sergent
August 18, 2008